

Chassis Report Porsche 997 C2 Schassis number WPOZZZ99Z5S7*****

Executive summary

The report gives the results of chassis investigation commissioned by the client.

It has been produced by a specialist Porsche chassis tuning company familiar with all models of the Porsche 911.

The car has suffered minor suspension damage, repaired by client arrangement and has undergone initial geometry adjustment.

The car suspension has been inspected physically and with Beissbarth wheel geometry instruments.

The process and results are given in detail by the respective attached reports table, picture and inspection documents.

The inspection process followed;

1. Trim fuel load and estimate weight of removed body parts and add to car
2. Check and set tyre pressures, ensure tyre and wheel fitments are correct
3. Measure ride heights
4. Measure baseline geometry (see column 'Initial' on report)
5. Correct toes rear and front to specification
6. Conduct camber – toe experiment
7. Physical inspection

Summary of results

Fuel and weight trim

42kg was added to the front load area to reach Porsche specified DIN70020 for geometry measurement.

Tyre pressures and wheel tyre

Tyre pressures were set, the wheels and tyres are correct size and type for the vehicle i.e. N1 rated, 87y on the front and 100y extra load on the rear. The front tread depths are Left (4.1mm), right (5.6mm), rear left (3.0mm) right (3.2mm). The left rear tyre sidewall is damaged.

Ride heights

The front axle is generally within the Porsche specification of 133+-10mm. The rear axle is within the Porsche 153+-10mm. The front ride height difference exceeds the 5mm, with the right front measurement 10mm lower than the left.

Baseline geometry

The rear suspension geometry reflects a similar car of age and mileage.

The front suspension has several key issues with variations to the norm on the right front wheel;

1. Negative camber 1.25degrees more than standard
2. KPI 1degree more than standard
3. Included angle 1degree more than standard
4. Weak toe in turn value by 0.5degree

Camber toe curve

Ride height change	Left Toe degrees	Right Toe degrees
+15mm	+0°13'	+0°12'
+10mm	+0°10'	+0°10'
+5mm	+0°06'	+0°06'
0mm	+0°03'	+0°03'
-5mm	-0°03'	-0°01'
-10mm	-0°07'	-0°04'
-15mm	-0°11'	-0°07'

The camber toe curve for the right wheel generally follows the left and meets the Porsche specification for ride height change. i.e. circa 3minutes of toe change per 5mm of suspension travel.

Physical inspection

The car suspension is mostly original and sound. The front 'H' subframe has been changed by client arrangement.

The front right damper rod is excessively bent. The damper is also leaking its hydraulic fluid.

The front left steering rack inner balljoint is knocking and very worn.



All other major wear points were inspected (bushes and balljoints) and found to be in apparently good condition.

Conclusion and recommendations

The right front damper rod damage is the culprit for the high negative camber on the right front wheel and most likely to affect the front right ride height.

There may be some slight damage to the right wheel hub carrier, however the camber/toe curve suggests that there is no damage to the carrier.

It is recommended that the damper be changed. Further due to the mileage, both front dampers be changed to ensure correct performance.

The steering inner balljoint must be changed to pass the MOT and ensure stability in high speed cruising.

The car will require a final geometry adjustment after new dampers and steering balljoints have been fitted.

Overall the extent of the damage to the suspension is little; however the stresses on the lower track control arms for front and rear axles are unknown. Experience shows the track control arm can suffer stress fractures that allow the balljoint to separate. It is recommended that these key components be replaced irrespective of their visual appearance.

A further geometry setup will be required if the above is done after and separate to addressing of the dampers and steering components. However all components can be changed and a single geometry setup can be conducted.

All tyres must be changed the rears are at the limit of their useful life approaching 3mm tread depth.